HANDS-FREE HAIR AND BODY DRYER THAT ALLOWS A WIDE RANGE OF MOTION

RELATED APPLICATION

[0001] The present application claims the benefit of priority of pending patent application 60/432,664 filed on December 12, 2002, the disclosure of which is hereby incorporated by reference.

BACKGROUND OF THE INVENTION

[0002] Hair dryers have existed for a number of years. Existing hair dryers used in the home are held by the hand and moved over the surface of a person's hair or skin to allow warm air exiting the dryer to dry the hair or skin.

[0003] An aging population finds it increasingly difficult to hold anything by hand, much less in a way necessary to effectively dry hair or skin. That is, it is sometimes difficult to hold existing dryers steady for the period of time needed to dry the hair or skin.

[0004] Regardless of age, it is many times inconvenient for someone who is dressing to use one or both hands to hold a hair dryer. For example, ladies desire to put on makeup and men desire to fix their ties, both of which may require two hands.

[0005] Accordingly, it is desirable to provide a way to dry the hair or skin without the need to hold a hair dryer while a person is engaged in another action or activity.

[0006] Hands-free, commercial dryers are available. However, these are too expensive for the average household and usually require a person to place her head under and/or into such a dryer while remaining relatively motionless. Motion, however, is just what occurs when a person rushes to get dressed.

[0007] Accordingly, it is also desirable to provide a hands-free hair and body dryer which allows a person a wide range of motion yet still manages to dry the hair or skin.

BRIEF DESCRIPTION OF THE DRAWINGS

[0008] FIG. 1 depicts a simplified drawing of a dryer according to embodiments of the present invention.

[0009] FIG. 2 depicts a simplified drawing of a dryer according to yet other embodiments of the present invention.

DETAILED DESCRIPTION OF THE INVENTION

[0010] Referring now to FIG. 1, there is shown a hair and body dryer 1 comprising elevation and securing means 4 (collectively referred to as "securing means"), first movement means 2, second movement means 3, power supply means 7, control means 6 and air diffuser means 5, among other elements.

[0011] Advantageously, the first movement means 2 allows the dryer 1, in particular the outer circumference 8 of the diffuser means 5, to be moved left, right, up or down in order to position the diffuser 5 over different parts of the surface of a person's head or body. The first movement means 2 may comprise a pivoting mechanism 2a or the like to move the dryer 1 to a desired position.

[0012] To further position the diffuser 5, second movement means 3 may also be incorporated. The second movement means 3 may also comprise a pivoting mechanism 3a to further allow the dryer 1 and diffuser 5 to be positioned over different parts of the surface of the head and body.

[0013] The first and second movement means 2, 2a, and 3, 3a are operable to move the dryer 1 over a wide range of angles, for example, 0 to 35 degrees, 0 to 90 degrees, 0 to 180 degrees or even 0 to 360 degrees. These ranges are by way of example only. Other

ranges are also possible, e.g., some range that covers less than 0 to 35 degrees. With this wide range of angles, the dryer 1 is capable of drying the surface of the hair and skin of a person as that person moves through a wide range of angles as he or she, for example, is dressing or putting on makeup. In comparison, though some existing commercial hair dryers are capable of moving in a side-to-side or up and down direction, they are not capable of moving over a wide range of angles, as is the dryer 1 of the present invention.

[0014] Though nothing prevents a user from touching both movement means 2, 2a and 3, 3a, in one embodiment of the invention the movement of these means (and therefore the position of the diffuser 5) is controlled without the need for such contact or access by a user (discussed below).

[0015] The body and component parts of the dryer 1 may comprise a lightweight material making the overall weight of the dryer 1 capable of being held by hand if desirable by a user.

[0016] FIG. 1 also shows removable securing means 4 for securing the dryer 1 to another object, such as a chair, pole, etc., for support. The securing means 4 may comprise a heavy-duty plastic clip, or a combination of a receptacle and main pole which allows the dryer 1 to move up and down in a vertical motion in order to raise the height of the dryer 1, to name just a few examples.

[0017] In an alternative embodiment, the base 4a of the dryer 1 may be weighted to allow the dryer to stand independently (i.e., without the need to be attached to a pole, chair, etc.) while the dryer 1 oscillates through a wide range of angles.

[0018] Also shown is control means 6. Control means 6 may comprise a removable or built-in remote control for controlling the power on/off functions of the dryer 1, and/or controlling the initiation, cessation and positioning of the movement means 2, 2a and

3, 3a. In more detail, control means 6 may comprise circuitry or the like which is programmed (or programmable) to send instructions to both movement means 2, 2a, 3, 3a that result in an associated movement of lower body 2b of the dryer 1 or upper body 3b of the dryer 1 through a wide range of angles. Each movement of lower or upper body 2b, 3b results in a new position of diffuser 5 over a person's head or body.

[0019] In addition, the control means 6 may comprise an infrared or radio frequency transceiver for detecting the presence or absence of a user, i.e., whether a user remains close enough to the dryer 1 so that the dryer 1 remains on. For example, if a person walks a far enough distance away from the dryer 1, the control means 6 may detect such movement and send a signal to the power source of the dryer 1 in order to shut the dryer off.

[0020] In addition, the control means 6 may comprise a timer which, regardless of the movement of a user, will track the amount of time the dryer 1 has been operating and automatically shut the dryer off if it exceeds a certain threshold (e.g., 15 minutes).

[0021] The dryer 1 may be operated with AC or DC power supplies which are a part of the power supply means 7. The power supply means 7 may also comprise a retractable power cord which is capable of changing its length as the dryer 1 moves from side to side, or up or down as the case may be. It is also capable of retracting entirely if it is to be disconnected from its present power source and moved to a different location.

[0022] Though not shown in FIG. 1, the dryer 1 may also comprise a mirror placed on its surface to allow a user to view the top, back or sides of the head or body (sometimes in conjunction with a second mirror).

[0023] Referring now to FIG. 2, there is shown another embodiment of the present invention. The dryer 10 shown in FIG. 2 adds a muffling means 9 which may comprise a baffling structure 12 made of a heat tolerant or heat resistant material capable of withstanding the temperatures of the air which exits from the air diffuser 5. This muffler means 9 is capable of being detached completely or switched into and out of the path of the air exiting the diffuser 5 by means of optional hinging means 11 or the like. The purpose of the baffling structure 12 is to reduce the noise which results from the air leaving the air diffuser 5 or from the motor (not shown in FIG. 2) used to operate the dryer 10. Such noise may interfere with the ability of a user to hear a phone or doorbell ring.

[0024] In yet an additional embodiment of the present invention, the muffler means 9 may be made of a heat sensitive material which is capable of changing color depending on the temperature of the material. For example, the material may change from a darker color to a lighter color when the temperature of the material reaches a certain threshold. This color change may act as a warning to a user of the dryer 10 that the temperature of the muffler 9 is reaching a dangerous level and should be removed.

[0025] In still another embodiment of the present invention, the control means 6 contains sensors and appropriate circuitry to measure the internal temperature of the dryer 1 including the muffler 9 in order to determine whether to disconnect the dryer 1 from its power supply 7 in order to meet United Laboratories specifications or the like and to prevent the dryer 10 from malfunctioning or catching fire.

[0026] The discussion above has presented some examples of the present invention. Modifications may be made without departing from the spirit and the scope of the present invention, the scope of which is more closely defined by the claims which follow.